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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,524	10/27/2003	Jonathan J. Morgan	117533	2232

25944 7590 05/31/2006

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EXAMINER	
PICKARD, ALISON K	

ART UNIT	PAPER NUMBER
3673	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/693,524	MORGAN, JONATHAN J.	
	Examiner	Art Unit	
	Alison K. Pickard	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22,25,26 and 28-30* is/are rejected.

7)☒ Claim(s) *23,24 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, 7, 11-15, 17-19, 22, 26, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Macks (2,964,339).

Macks discloses a sealing arrangement for sealing between parts in a turbine comprising a hydrodynamic sealing member (e.g. Fig. 9) having an upstream surface, downstream surface, radially outer surface, and radially inner surface. A resilient means (e.g. 64) is fixed to the seal member on the upstream surface (either side can be upstream, see col. 4, lines 23-24). During operation a clearance is created, which generates the hydrodynamic action, and the resilient means resists forces created by the fluid/pressures. A sealing device or sealing means (e.g. 72, see Fig. 10) is provided between the sealing member and housing, on a down stream portion.

3. Claims 1, 2, 4-14, 16, 17, 19, 22, and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Gardner (5,632,493).

Gardner discloses a segmented sealing member having an upstream surface (e.g. near 50), a down stream surface (e.g. near 125), a radially outer surface, and radially inner surface (e.g. at 160). A resilient means 100 is fixed to the upstream surface of the member. During operation, a hydrodynamic action is created between the radially inner surface and the shaft. The resilient means resists the forces generated at the gap. The clearance created is larger on the

high-pressure side (at 160) and is substantially parallel at part of the surface (180). The inner surface 180 can be coated. A sealing means (at 125) is provided between the downstream surface and housing. The inner surface has plural channels (280, 260, 270) that can have various shapes.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macks in view of Strub (3,756,673).

Macks does not disclose a passage from the upstream surface to the radially inner surface. Strub teaches a hydrodynamic sealing member with a resilient means 19. Strub teaches using a passage to supply pressure from the upstream side to between the seal and shaft to create the hydrodynamic film and center the seal on the shaft. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the passage taught by Strub to supply pressure to the clearance in Macks to help create the hydrodynamic film and ensure the seal is centered.

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Macks.

Macks does not appear to disclose the material of the sealing means 72. The selection of a known material based on its suitability for its intended use is not considered inventive. See In re Leshin, 125 USPQ 416 (CCPA 1960). Therefore, it would have been obvious for one of

ordinary skill in the art at the time the invention was made to make the means from one of the claimed materials.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gardner.

Gardner does not appear to disclose the required depth of the channels. It is not considered inventive to discover the workable or optimum ranges by routine experimentation absent the showing of criticality for such ranges. See In re Aller, 105 USPQ 233, 235 (CCPA 1955). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make the depth of the channels as required.

Allowable Subject Matter

8. Claims 23, 24, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 3-24-06 have been fully considered but they are not persuasive.

Both "resilient means" of Macks and Gardner are considered to resist axial and radial forces as required by the claims. For example, Macks' wires are metal and have an inherent degree of resiliency as well as stiffness. Thus, the wire would naturally resist some radial movement. Also, the wires are configured to maintain the constant clearance between the seal and shaft, even during movement of the shaft (see col. 7, lines 6-13). Thus the wires provide enough resiliency to allow and maintain the constant clearance. This is similar to how applicant's "means" functions. Both maintain the constant clearance during shaft movement.

Also, if any resistance is provided, then the claim language is met. Even further, since claim 1, for example, only requires a resilient "means" there is no reason both the wires and the diaphragm (e.g. 62 or 70) cannot constitute the "means." As for Gardner, the means 100 is fixed to the sealing member 160 at wall 50. And, the "means" does function as required by the claims. Herron provides additional evidence that such "means" is configured to counter radial and axial pressures (see col. 4, lines 5-17) in order to accommodate and provide a constant clearance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alison K. Pickard whose telephone number is 571-272-7062. The examiner can normally be reached on M-F (10-7:30), with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tricia Engle can be reached on 571-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alison K. Pickard
Primary Examiner
Art Unit 3673

AP